Election of Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Original) An inductor comprising:

a nonconductive, tubular form having an outer surface and defining a tube axis, said outer surface formed with a groove extending substantially helically about said tube axis; and

a coiled wire formed with a plurality of turns for passing an electrical current therethrough, said wire being wound around said form with at least a portion of said wire disposed in said groove to maintain a predetermined separation between adjacent turns during a generation of magnetic forces created by electrical currents passing through said wire.

2. (Original) An inductor as recited in claim 1 wherein said form is made of an epoxy – glass composite.

3. (Original) An inductor as recited in claim 1 wherein said groove has a substantially rectangular shaped cross-section.

4. (Original) An inductor as recited in claim 1 further comprising a means for cooling said wire.

5. (Original) An inductor as recited in claim 4 wherein said cooling means comprises:

a shroud for establishing a volume with at least a portion of said wire positioned in said volume; and

a fan for passing air through said volume to cool said wire.

6. (Original) An inductor as recited in claim 1 wherein said wire extends from a first end to a second end and said inductor further comprises a first clamp mounted on said form for clamping said first end and a second clamp mounted on said form for clamping said second end.

7. (Original) An inductor as recited in claim 6 wherein said tube is formed with a cylindrical inner surface; said inner surface is distanced from said tube axis by a radial distance, R; said first end is clamped by said first clamp at a first clamping point distanced from said tube axis by a radial distance, r, with $r > R$.

8. (Original) An inductor as recited in claim 7 further comprising a saddle made of a non-magnetic material for mounting said first clamp to said form.

9. (Original) An inductor as recited in claim 8 wherein said saddle is made of a stainless steel.

10. (Original) An inductor as recited in claim 8 further comprising an insulating member affixed to said saddle for attaching said saddle to a mounting plate.

11. (Original) An inductor comprising:

a coiled wire formed with a plurality of turns for passing an electrical current therethrough; and

a form having a wall formed with a groove extending partway through said wall, with said wire being disposed in said groove to at least partially expose said wire to a volume surrounding said form to cool said wire, said groove being dimensioned for holding said wire to maintain a predetermined separation between adjacent turns during a generation of magnetic forces created by electrical currents passing through said wire.

12. (Original) An inductor as recited in claim 11 wherein said form is substantially tubular shaped and made of a nonconductive material.

13. (Original) An inductor as recited in claim 12 wherein said groove has a substantially rectangular shaped cross-section.

14. (Original) An inductor as recited in claim 13 further comprising:

a shroud for establishing a volume with at least a portion of said wire positioned in said volume; and

a fan for passing air through said volume to cool said wire.

15. (Original) An inductor as recited in claim 14 wherein said wire extends from a first end to a second end and said inductor further comprises a first clamp mounted on said form for clamping said first end and a second clamp mounted on said form for clamping said second end.

16. (Original) An inductor as recited in claim 15 wherein said tube is formed with a cylindrical inner surface; said inner surface is distanced from said tube axis by a radial distance, R; said first end is clamped by said first clamp at a first clamping point distanced from said tube axis by a radial distance, r, with $r > R$.

17. (Original) An inductor as recited in claim 16 further comprising a saddle made of a non-magnetic material for mounting said first clamp to said form.

18. (Withdrawn) A method for manufacturing an inductor, said method comprising the steps of:

providing a nonconductive, tubular form having an outer surface and defining a tube axis;

forming a groove in said outer surface, said groove extending substantially helically about said tube axis; and

winding a wire around said form with at least a portion of said wire disposed in said groove to maintain said wire in a predetermined shape during a generation of magnetic forces created by electrical currents passing through said wire.

19. (Withdrawn) A method as recited in claim 18 further comprising the steps of:

providing a shroud for establishing a volume;

positioning at least a portion of said wire in said volume; and

circulating a fluid in said volume to cool said wire.

20. (Withdrawn) A method as recited in claim 19 further comprising the step of clamping an end of said wire to said form.